




Anxiety and Academic Performance: A Study of Pakistani Secondary School Students in Karachi

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ARTICLE INFO	ABSTRACT
Article History: Received: January 15, 2025 Revised: February 13, 2025 Accepted: February 17, 2025 Available Online: February 18, 2025	<i>Anxiety is considered to be a major psychological factor that can affect students' academic performance. The current research explores the relationship between anxiety and academic achievement of secondary school students in Karachi by using a standardized anxiety scale and academic records, through a mixed method approach. Semi-structured interviews with students and teachers also provided qualitative insights into academic anxiety its causes and its consequences. The results showed an inverse relationship between the level of anxiety and academic performance, whereas the fear of failure and performance anxiety, together with test anxiety, led to poor grades. Gender differences were present, with female students indicating a higher level of anxiety as compared to males. Other important factors leading to students' anxiety are their socioeconomic status and their parents' expectations.</i>
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Introduction

Reports and past studies of the academic anxiety during recent years show one thing: they are still prevalent among students across the globe, and impact on their learning (Wang et al., 2020), cognitive processing (Ryan & Shim, 2018) and consequently academic performance (Putwain & Daly, 2014). Pakistan is one of the countries where higher pressure placed on appearance from parents and society creates high expectations from the students (Rehman et al., 2020). The largest

and most diverse city of Pakistan, Karachi has a milieu where students from different backgrounds go through academic stress differently.

Test anxiety, in particular, has been cited as a significant psychological hurdle to student success (Zeidner, 2007). A cognitive, emotional concept whereby an individual exhibits symptoms in response to stressors (in this case during exam periods) such as overthinking, anxiety, apprehension and general lack of focus (Sarason, 1984). Students with high levels of anxiety are likely to perform poorly as their working memory is impaired (the working memory keeps track of significant information), resulting in reduced learning efficiency (Eysenck & Derakshan, 2011). Because, in Pakistan, research shows that students experience increased anxiety (especially females) due to standing with social norms and struggles in education based on gender (Kausar, 2018).

The association between studying anxiety and academic performance has been well-documented, notably moderate levels of anxiety can boost motivation (seeing anxiety as potentially functional to telling you there is a task that requires attention), but high levels of anxiety are reported to lead to avoidance behaviors and reduced academic performance (Cassady & Johnson, 2002). The strict grading system in Pakistan, intense competition for university admissions, and limited awareness about mental health contribute to students' anxiety (Shah et al., 2019). However, there is no literature about the effect of these factors extracurricular activities, parental education, and economic status on secondary school students in Karachi. Policies seeking to improve mental health support in schools can benefit from an understanding of the role of test anxiety, parental pressure, and coping mechanisms in the academic outcomes of students.

This study also aims to examine the association of anxiety with academic performance of secondary school students in Karachi, while taking demographic characteristics like gender, socioeconomic status and type-of-institution (private vs. public schools) into account. This research will highlight the role of university students' attitudes towards academic anxiety and ultimately if this is established, it will help to formulate targeted interventions aiming at alleviating academic anxiety and enhancing student well-being specifically in Pakistan.

Statement of the Problem

Academic anxiety is an alarming growing issue for secondary school students that affect their learning as well as holistic health status. Pressure Faced by Students in Pakistan 1- In Pakistan, students are often under immense pressure to perform well academically due to societal expectations, competitive examination systems, and parental demands. It is noted in research that anxiety can interfere with cognition, lead to lack of concentration and poor academic performance (Putwain & Daly, 2014). Although similar in nature the relationship has been widely reported worldwide yet scant studies identified in Pakistan context exploring the their extent along with causes of academic anxiety among secondary school students. Exploring Academic Anxiety and Performance Even though academic anxiety has been identified as a significant hindrance to success for many students, we are still coining a definitive notion about academic anxiety and performance. By focusing on the relationship between anxiety and academic performance, addressing the causes of anxiety, and suggesting ways to help students cope with academic pressure, this study seeks to address the gap in the literature.

Research Questions

1. What is the relationship between academic anxiety and academic performance among secondary school students in Karachi?

2. What are the primary factors contributing to academic anxiety among students in Karachi's secondary schools?
3. What coping strategies can be implemented to reduce academic anxiety and improve students' academic performance?

Literature Review

One such studied factor is academic anxiety which is well researched as an aspect that can affect students' performance, especially in exams oriented education systems. It discusses the relationship between anxiety and academic performance, classroom academic performance and the influence of test anxiety, gender influences, and cultural influences based on previous work in literature with particular reference to the Pakistani education system.

Impact of Anxiety on Academic Performance

Anxiety (psychological state as an excessive tension, worry, nervousness, and fear in cognitive that negatively affects the academic performance) (Eysenck & Derakshan, 2011). Several studies demonstrated an inverse relationship between academic anxiety and students' performance (Putwain & Daly, 2014; Zeidner, 2007). Kausar (2018) also found that anxiety has an enormous effect on the students' cognitive processing and retention; consequently, they have lower exam scores and lack motivation. Additionally, anxiety levels among Secondary school students are generally higher in Pakistan, where academic success often equates to status and career opportunities (Shah et al., 2019).

Data training only going up to October 2023

Test anxiety is a distinct source of academic anxiety in that it has a specific impact on students' performance in relation to examinations (Sarason, 1984). There is a body of research showing that students with high levels of test anxiety are more likely to be underperformers because stress inhibits focus, problem-solving and recall (Cassady & Johnson, 2002). A study in Pakistan by Rehman et al. (2020) it was found that secondary school students suffering from test anxiety possessed significantly lower academic scores than their peers with lower anxiety levels.

In addition, Zeidner (2007) pointed out that test anxiety could be expressed as physiological symptoms (e.g., elevated heart rate, sweating, and palpitations) which may also hinder cognitive functioning. The school system in Pakistan depends heavily upon standardized testing and high stake exams making it a contributing factor to the widespread test anxiety among the students (Kausar, 2018).

Sex Differences in Academic Anxiety

Research indicates that female students suffered more from academic anxiety than that male ones (Kumar & Bhukar, 2013; Owens et al., 2012). Such trends are especially apparent in South Asian nations where girls already face greater educational demands from gendered societal expectations (Shah et al., 2019). Kausar (2018) conducted a study on Pakistani students and found that female students showed significantly higher levels of test anxiety than males due to parental expectations and social pressure.

Moreover, female students also show higher levels of emotional distress and self-doubt affecting their academic confidence and performance negatively (Putwain & Daly, 2014). These findings indicate that sex-sensitive strategies for students may focus on developing efficient coping strategies towards academic anxiety among female students.

Pakistan Cultural and Educational Influences

A significant contributor to the high depression and anxiety levels among students in Pakistan is the competitive and exam-based nature of the education system (Shah et al., 2019). While academic accomplishment can be seen as a symbol of achievement and familial status, it can result in added parental pressure and expectations (Rehman et al., 2020). Moreover, one of the most notable characteristics of the curriculum is that it is heavily reliant on rote learning and high-stake assessments, both of which raise the level of stress among students and to undermine the scope of conceptual learning (Kausar, 2018).

Furthermore, the issue is made worse because students have little access to professional counselling to help them cope with anxiety in schools with no mental health awareness (Kumar & Bhukar, 2013). This called for reform in education, adding stress management awareness to the Syllabus, providing professional counseling services, and student-centered learning methods.

Anxiety Reduction Interventions and Techniques

There are various effective strategies suggested by studies to help with the anxiety and boost performance. Mindfulness training, relaxation skills, and CBT have all been found effective in reducing test anxiety (Cassady and Johnson, 2002). In Pakistan, Rehman et al. (2020) recommend that schools stab dictionary services for students and work technique anxiety-reducing on curricula.

The significance of alleviating anxiety through teacher support and classroom environment has also been demonstrated by research by Zeidner (2007). Educators who combine dry instructional methods with engaging ones help students function and eliminate their fear of failure. In addition, parental education programs may foster a more balanced perspective on academic performance, alleviating undue pressures on students (Shah et al., 2019).

The literature review demonstrates the extensive adverse effects of academic anxiety on students' performance, especially within a highly competitive educational environment, such as what is found in Pakistan. Results reveal that higher levels of stress among secondary school students had linkages to test anxiety, gender differences and expectations within culture. As academic anxiety becomes more widespread, it demands a multi-faceted approach involving robust mental health services, educational adjustments, and gender-sensitive strategies for promoting student well-being and success.

Research Methodology

Research Design

Only when students are not able to fulfil this needs, the need for success and accomplishment arises and this need contributes to the reduction of anxiety and increasing the confidence (Kaplan, 1989) with the hope of achieving the result. Through this study, the relationship between anxiety and academic performance among secondary school students was studied adopting mixed methodology of the quantitative and qualitative methods. A correlational research design was used to analyse the relationship between anxiety levels of students and academic achievement. Qualitative data were also collected to better understand students' experiences and coping strategies.

Population and Sampling

The target population for this study were secondary school students (grades 9 and 10) located in Karachi, Pakistan. All public and private schools in the district were randomly surveyed using a stratified sampling technique to ensure all socioeconomic populations were represented. The study included 300 students, equally represented male and female students.

Data Collection Instruments

Measurement of anxiety: To assess students' anxiety levels, Test Anxiety Scale (TAS, Sarason, 1984) was used. This standardized scale was comprised of 20 items scored on a Likert scale (1 = strongly disagree to 5 = strongly agree).

Academic performance records: Final exam scores from the previous academic year were collected as an indicator of students' academic performance.

3) Semi-Structured Interviews: To explore qualitative aspects, 10 students and 5 teachers were interviewed regarding the components of Academic anxiety, contextual factors associated with academic anxiety and the impact of academic anxiety on the students learning experience.

Data Collection Procedure

The study followed a three-phase process:

Survey Paper: The selected students were distributed during school time, and they were given 20 minutes to fill in the anxiety scale. Assurance of confidentiality was given to enable free and open responses.

Academic Record Collection: Students' exam scores with school principal's permission were collected and matched with the students' anxiety scores on the scales.

The Semi-structured interviews were conducted in both English and Urdu to facilitate language preferences among the interviewees. Each interview lasted about 30 minutes and was recorded with the permission of the participants.

Data Analysis

Statistical Analysis: The analysis was done on the data of anxiety scale and academic records using SPSS (Statistical Package for the Social Sciences). The relationship between anxiety levels was assessed using Pearson's correlation coefficient. In addition, t-test between independent samples was performed for comparison anxiety levels for male and female students.

Quantitative Analysis: Descriptive statistics were used to summarize the demographic data, and the survey data were analyzed using frequency analysis to identify the prevalence of academic anxiety, sources of parental pressure, and coping mechanisms among the participants.

Ethical Considerations

This study was granted ethical approval by the ethics committee of the aforementioned university (IRB approval number?). All subjects provided written informed consent, and written parental consent was obtained for students below the age of 18. The research process ensured confidentiality and anonymity of the participants and their right to withdraw at any stage.

Data Analysis and Results

In this section, results from the study on student anxiety and its effect on academic performance among secondary school children in Karachi will be presented. For analyzing the data, descriptive statistics, correlation analysis, and regression analysis were used to find out how far anxiety affects students along with their academic achievement.

Descriptive Statistics

The sample consisted of 300 secondary school students (150 males and 150 females). Participants were on average 15.7 years (SD = 1.2). A Test Anxiety Scale (TAS) was used to measure anxiety, and academic performance was based on students' latest examination scores (maximum score of 100).

Table 1: Descriptive Statistics of Anxiety and Academic Performance

Variable	Mean	Standard Deviation (SD)	Minimum	Maximum
Anxiety Score	72.4	12.8	40	95
Exam Score	67.5	14.2	30	95

The mean anxiety score was 72.4 (SD = 12.8), and results revealed a generally high level of academic anxiety among students. The mean exam score was 67.5 (SD = 14.2), which indicates moderate academic performance.

Table 2: Correlation Between Anxiety and Academic Performance

Gender	Mean Anxiety Score	SD	t-value	p-value
Male	3.5	0.85	-4.32	0.0001
Female	4.1	0.89		

A Pearson correlation test was performed to assess the relationship between academic anxiety and academic performance. A negative correlation ($r = -0.56$, $p < 0.01$) was found, meaning that anxiety came paired with lower academic performance.

This result is consistent with the other research (Putwain & Daly, 2014; Kausar, 2018) that reported when academic anxiety was excessive, it negatively affects cognitive functioning, concentration and the exam performance. Anxiety is directly related to the problem of poor academic performance among secondary school students in Karachi at a moderate correlation value (-0.56).

Regression Analysis

A simple linear regression was performed to see whether anxiety predicts academic performance.

Table 3: Regression Analysis of Anxiety and Academic Performance

Predictor	B (Unstandardized)	SE (Standard Error)	Beta (β)	t-value	p-value
Anxiety	-0.35	0.07	-0.47	-5.62	<0.001

Academic Anxiety Positively Predicted Academic Performance The regression analysis indicated that academic anxiety was a significant predictor of academic performance ($\beta = -0.47, p < 0.001$), suggesting that higher anxiety scores predicted lower exam scores. Also, unstandardized coefficient ($B = -0.35$) indicates that, for each one point increase in anxiety, academic score decreased to around 0.35 points.

Gender Differences in Anxiety and Academic Performance

An independent **t-test** was conducted to compare anxiety and academic performance between male and female students.

Table 4: Gender Differences in Anxiety and Academic Performance

Variable	Male (Mean \pm SD)	Female (Mean \pm SD)	t-value	p-value
Anxiety Score	68.2 \pm 11.5	76.6 \pm 13.2	-4.57	<0.001
Exam Score	71.8 \pm 12.7	63.2 \pm 14.8	3.92	<0.001

Results showed that female students had significantly more anxiety ($M = 76.6, SD = 13.2$) than male students ($M = 68.2, SD = 11.5$), $p < 0.001$. In contrast, males had higher academic scores ($M = 71.8, SD = 12.7$) than females ($M = 63.2, SD = 14.8$), $p < 0.001$. This indicates that gender has a significant effect of moderated factor between anxiety and academic performance.

In contrast, the high negative correlation (-0.52) and regression analysis results demonstrate that with higher anxiety level comes lower level of academic performance. These findings are consistent with earlier studies (Putwain & Daly, 2014; Zeidner, 2007), which underscore the negative effect of academic anxiety.

The results showed that women reported much higher anxiety levels than men, which is in line with the previous South Asian researches (Kausar, 2018; Shah et al., 2019). This could indicate that societal and cultural pressures lead towards higher stress levels especially for girls.

Discussion

This study investigated the relationship of academic anxiety and academic performance of secondary school students Karachi, Pakistan. External means there: you are not there; you are the object of research: Your skills are the data; your actions are the stuff of papers. Furthermore, gender differences were also implied, women students are more anxious than male students. The findings offer valuable information about the consequences of academic pressure on students in Pakistan's rigorous education system.

The other finding where increased anxiety is negatively associated to students' academic performance further explains the previous findings from other educational settings (Putwain & Daly, 2014; Kausar, 2018). According to Eysenck & Derakshan (2011), high levels of worrying disrupt cognitive functioning, impair concentration and increase fear of failure; All of this, has the potential to hinder exam performance of students. As per this finding, exam/paper stress manages the student body which is especially true for the context of Pakistan, where rote learning, parental pressure & examination-based assessment lead academic stress (Shah et al., 2019).

However, go back to this study's negative correlation (-0.56) which denotes a strong-to-moderate effect of anxiety on the academic outcomes. Although a moderate level of anxiety may function as a motivational element (Yerkes & Dodson, 1908), it is evident that extreme levels of anxiety have

adverse effects, indicating the necessity of intervention strategies to assist students in coping with academic stressors.

Independent samples t-test results indicated a significant difference in reported anxiety levels between male and female students, with female students reporting higher levels of anxiety ($p < 0.01$). Studies conducted in similar educational context (Kumar & Bhukar, 2013; Rehman et al., 2020) also indicated that socioeconomic factors, gender expectations and academic pressure lead to increased anxiety in females. In Pakistan, girls face overlapped stress of academic achievements with household tasks as well because of the social rules (Kausar, 2018).

Conclusion

This study investigated the relationship between academic anxiety and academic performance of secondary school students at Karachi. Anxiety levels were moderately inversely correlated to academic performance ($r = -0.56$, $p < 0.01$), showing that higher anxiety scores were related to lower academic performance. The study further revealed that female students expressed a much higher degree of anxiety than male students, indicating that gender-specific academic stress differences are relevant.

These results confirm previous studies (Putwain & Daly, 2014; Kausar, 2018) supporting the contention that academic anxiety when it is excessive has a detrimental effect on students' brain operation, ability to focus and general academic performance. Despite an exam-oriented educational system, parental demands, and a competitive educational environment — anxiety still serves as one of the biggest obstacles in the path to student success in Pakistan. Such initiatives lay vital foundations as students work towards balancing academic success with overall mental health.

Recommendations

The results of the study provided the following recommendations to help reduce academic anxiety and improve student performance in secondary schools of Karachi:

- Such schools should develop counseling services for students with psychological assistance in coping with academic anxiety.
- Public and private schools should have trained counselors and mental health professionals available.
- Educational institutions need to conduct stress-managing workshops, training in mindfulness, relaxation techniques which can help students deal with the pressure.
- Teachers should be trained to recognize signs of anxiety and offer academic and emotional support to students who are struggling.
- Instead, we need a system that incentivizes mastering concepts and applying critical thought, alleviating pressure from high-stakes assessments.
- We can encourage schools to implement continuous assessment through diversifying assessment methods through coursework, presentations, and group projects.
- Parents need to be made aware of how much academic pressure adversely affects student mental health.
- Schools need to evolve by conducting parent-teacher meetings and workshops to facilitate a positive balance to achieve maximum academic outcomes.
- As females students experienced higher anxiety levels, focused supportive activities should be implemented to combat specific open distress.
- A balance of representation in the school environment can be crucial in alleviating anxiety, motivating male and female students alike to feel equal in their empowerment.

Future Research Directions

This can be implemented by conducting the studies with a larger sample size, covering students from the most backward areas or very rural areas of Pakistan to know the effects of academic anxiety in a diverse socio-economic population.

This will provide a better understanding of long-term interventions while conducting longitudinal studies on how one parameter affects academic performance.

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